



FINAL REPORT

Critical Needs Assessment

Georgetown Municipal Water
and Sewer Service Georgetown, KY

August 2019



engineering | architecture | geospatial

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Introduction

Georgetown Municipal Water and Sewer Service (GMWSS) tasked GRW Engineers (GRW) with assessing the critical needs of their water and wastewater infrastructure. The identified needs would then be assimilated into a 0-5 year needs budget to determine the financial impact of these needs as it relates to the current and future rate structure. The following report encompasses the methods used, detailed and summarized reports, and conclusions drawn from the study.

Methodology

GRW's methodology was to create a scoring criteria that would transcend and equally score all of the different needs of GMWSS. The critical needs assessment has three (3) components to assist in cataloging and scoring the needs. Those components are Asset Classification, Consequences, and Condition. Below is summary of each component:

- The Asset Classification was established to identify the need and assure the assessment was placed within the proper corresponding Critical Needs Sector. The list of all Asset Classification Sectors are Wastewater Treatment Plant (WWTP), Water Treatment Plant (WTP), Distribution Line Work/Tanks (DLW), Collections Line Work (CLW), Collections Lift Stations (CLS), and Other (OTH – Engineering, Administrative, IT, etc). The Asset Classification was the first step in need identification.
- Once a need was identified, a ranking of Consequence was determined. The Consequence component is the impact of a needs failure. A grading scale of 1 to 5 was applied to each need to establish the Consequence with 1 being a Very Low consequence to 5 being a Very High consequence.
- A ranking of Condition was determined for each need. The Condition component is the current state of the need. The same 1 to 5 grading scale was applied with 1 being Very Good condition to 5 being Very Poor condition.

The two grades from the Consequence & Condition components were then multiplied together to obtain a need score. The need score was a tool used in the ranking process to determine priority.

GMWSS's critical needs were identified from site visits and meetings with GMWSS staff and personnel. A specific needs assessment sheet was created for each identified asset classification. Each individual needs assessment sheet included a project description, a narrative describing the asset and its condition and concerns, a scoring of the Consequence & Condition, ranking, timeframe, and estimated cost. Project timeframes were discussed with GMWSS staff to determine which Fiscal Year Ending (FYE) the project would be started and completed. These timeframes were determined by a number of factors including priority of project, planning of rate structure, and project cost. For these reasons, a critical need with a lower score may be pushed out a later FYE cycle, than a critical need with a high score based on project cost & how it impacts the rate structure.

In conjunction with the critical needs assessment sheets, an Opinion of Cost was also created for each identified asset classification. These Opinion of Cost are based on actual quotes or an engineering estimate and have detailed descriptions of the itemized costs.

Once each identified asset classification was scored based on Consequence & Condition, and then on project cost, a summary prioritizing all identified needs was generated for each Critical Needs Sector and then grouped by sector.

As mentioned hereinbefore, the need score was used as a tool in the overall ranking process. GRW met with GMWSS staff and reviewed GRW's initial scoring. Based on those meetings, some needs were revised to reflect long term goals or project sequencing. After those discussions, the needs were assimilated into a Global Scoring document. The Global Scoring document ranked all needs by total score (highest to lowest), with each scoring group sorted by cost (most expensive to least expensive).

Assessment Legend Key

Figure 1 located below provides the Assessment Legend Key that was developed and used in scoring identifying and scoring each critical need. As outlined hereinbefore, each critical need was scored using the product of its Consequence rating (1-5) and its Condition rating (1-5). The Assessment Legend Key can be found in each Need Assessment Summary Sheet for reference.

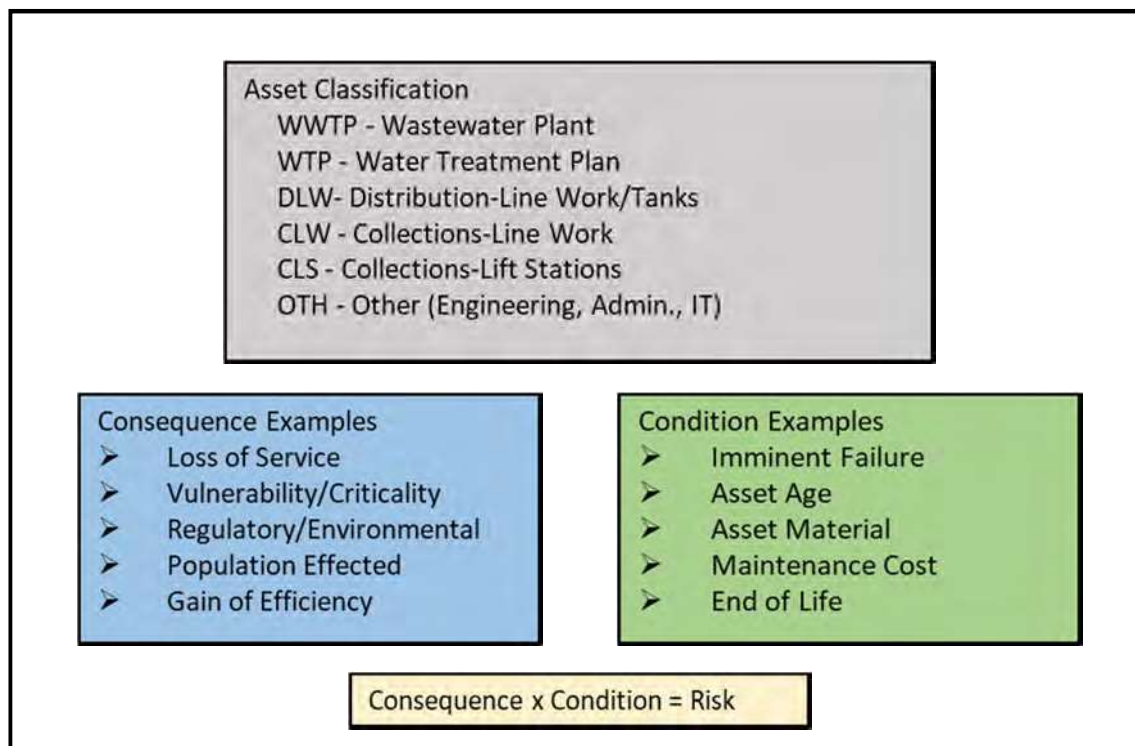


Figure 1: Assessment Legend Key

Conclusion

Through GRW's unique team of engineers and experienced operational staff, a total of 103 critical needs were identified that have a total estimated overall cost of \$111,185,486.30. Based on meetings with GMWSS staff and critical need priority, a total of 82 of the 103 critical needs were identified to take place over the next 5 years to meet the growing needs of the GMWSS service area. Of these 82 identified critical need projects, 48 projects are expected to be funded by GMWSS. These 48 GMWSS funded critical need projects have a total estimated cost of \$32,860,279.98. Table 1 outlines the 48 critical need projects and estimated cost by sector. It should be noted that the Critical Needs Assessment does not include the planned expansion of Wastewater Treatment Plant No.1 (WWTP#1).

| Table 1 Summary of Water & Wastewater Critical Needs Within 5 Years GMWSS Capital Project Plan | | |
|---|---|---|
| Sector | Number of Critical Needs (0-5 Years) | Total Estimated Cost of Critical Needs (0-5 Years) |
| Water | 21 | \$11,804,463.37 |
| Wastewater* | 16 | \$19,007,376.61 |
| IT-SCADA-Admin | 8 | \$1,783,440.00 |
| Expense Projects | 3 | \$265,000.00 |
| Total | 48 | \$32,860,279.98 |
| *Does not include anticipated expansion of WWTP#1 within 0-5 years. | | |

The 48 critical need projects listed in Table 1 were used to determine the 0-5 year Capital Project Plan for GMWSS. The 0-5 year Capital Project Plan was utilized to develop recommendations to fund these projects through various rate alternatives within the Rate Study project. Although the Capital Project Plan does not include the planned expansion of WWTP#1, the Rate Study project does include this cost.

The 0-5 year Capital Project Plan is included hereinafter along with Capital Project Plan summaries for each asset classification (CLS, DLW, WTP, OTH, CLW, and WWTP).

The remaining 34 of 82 identified critical need projects are expected to take place over the next 5 years but are not anticipated to be funded by GMWSS. These 34 critical need projects are composed of 33 projects at Wastewater Treatment Plant No.2 and 1 developer project. The 33 WWTP#2 critical need projects are anticipated to be funded through the Toyota Motor Manufacturing of Kentucky (TMMK) Fund 2. The 1 developer critical need project is expected to be funded by a private developer. Table 2 outlines these non-GMWSS funded 34 critical need projects that are expected to be within the next 0-5 years.

| Table 2 Summary of Water & Wastewater Critical Needs Within 5 Years Not Funded by GMWSS | | |
|--|---|---|
| Sector | Number of Critical Needs (0-5 Years) | Total Estimated Cost of Critical Needs (0-5 Years) |
| WWTP#2 – Fund 2* | 33 | \$4,909,949.69 |
| Developer Projects* | 1 | \$1,569,243.22 |
| Total | 34 | \$6,479,192.91 |
| *Not included in the GMWSS 0-5 year Capital Project Plan | | |

The remaining 21 critical needs of the 103 that were identified are not expected to take place within the next 5 years. These 21 future critical needs can be found in this report and are outlined in the *Global Assessment Scoring Summary by Sector* section.

GRW is pleased to have the opportunity to work with Georgetown and the great staff of GMWSS on this project and we look forward to being part of the great things to come for this community.